SECTION 15886 – AIR FILTERS

PART 1 – GENERAL

1.1 SUMMARY

A. Types of air cleaning equipment specified in this section include the following:

1. Air Filters
   a. Extended surface, self-supporting.

2. Filter Holding Systems.
   a. Side Servicing Housings.

3. Filter Gages.

1.2 SUBMITTALS

A. Submit manufacturer's technical product data, maintenance and operation data, including rated capacities of selected model clearly indicated dimensions, required clearances, weight, furnished specialties and accessories; and installation and start up instructions.

1.3 QUALITY ASSURANCE

A. Codes and Standards
   1. UL Compliance: Comply with UL Standards pertaining to safety performance of air filter units.
   2. ASHRAE Compliance: Comply with provisions of ASHRAE Standard 52-76 for method of testing, and for recording and calculating air flow rates.

PART 2 – PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, manufacturers offering air cleaning equipment which may be incorporated in the work include; but are not limited to the following:
1. American Air Filter Co.
2. Cambridge Filter Corp.
3. Continental Filter Corp.
4. Farr Co.

2.2 AIR FILTERS

A. Final Filters: Extended Surface Self-Supporting Filters: Provide factory- fabricated, dry, extended surface self-supporting filters with holding frames; as indicated. Equip with UL class 1 fibrous media material constructed so that individual pleats are maintained in tapered from by horizontal and vertical supports under rated airflow conditions. Construct holding frames of 18-ga (1.2 mm) galvanized steel and provide suitable fasteners and gasketing to hold filter units and to prevent unfiltered air passing between media frames and holding devices. Provide filters with rated face velocity of 8 Ft/s (2.5 m/s), initial resistance of .50 in Wg (170 Pa) with 90 – 95% efficiency, and final rated resistance of 1.5 in Wg (370 Pa). Typical filters meeting these requirements are Farr type RIGA-FLO 200.

B. Pre-Filters: Filter media shall be of the non-woven cotton fabric type. The filter media shall have an average efficiency of 25-30% on ASHRAE Test Standard 52-76. It shall have an average arrestance of 90-92% in accordance with that test standard. Enclosing frame shall be constructed of a rigid, heavy duty, high wet strength beverage board, with diagonal support members bonded to the air entering and air exit side of each pleat, to ensure

pleat stability. The inside periphery of the enclosing frame shall be bonded to the filter pack, thus eliminating the possibility of air bypass. The top and bottom of the enclosing frame shall be equipped with integral reinforced channels for proper installations and sealing.

2.3 FILTER HOLDING SYSTEMS (FINAL FILTERS)

A. Side Servicing Housings: Provide factory-assembled side servicing housings for high efficiency filters with flanges for insertion into ductwork system as indicated. Construct of 16-ga (1.5 mm) galvanized steel. Provide access doors with continuous gasketing on perimeter and positive locking devices. Incorporate positive-sealing gasket material on channels to seal top and bottom of filter cartridge frames to prevent bypass. Arrange so filter cartridge can be loaded from either access door. Housing leakage rate shall be less than 1% at 3 in Wg (750 Pa.)

1. Leak-test housing by pressurizing to 3 in Wg (750 Pa) and soap bubble test housing joints, door seals, and filter sealing edges. Provide crank operated spring-loaded filter-sealing mechanism with limit stop. Design clamping frame to provide continuous knife-edge seal for all four edges of each individual filter.

2.4 FILTER GAGES

A. Provide diaphragm-type filter gage for each filter bank, including filter in air handling unit, with dial and pointer, graduated to read from 0 to .07 psi (500 Pa) Provide pressure tips, tubing, gage connections, and mounting bracket.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install air filters and holding devices of types indicated, and where shown; in accordance with air filter manufacturer's written instructions and with recognized industry practices; to ensure that filters comply with requirements and serve intended purposes.

B. Locate each filter unit accurately in position indicated, in relation to other work. Position unit with sufficient clearance for normal service and maintenance. Anchor filter holding frames securely to substrate. Mount final filter holding frames on 4" (100 mm) housekeeping pad.

C. Install filters in proper position to prevent passage of unfiltered air.

D. Install air filter gage pressure tips upstream and downstream of filters to indicate air pressure drop through air filter. Mount filter gages on outside of filter housing or filter plenum, in accessible position. Adjust and level inclined gages if any, for proper readings.

3.2 EXTRA STOCK

A. Provide one complete extra set of prefilters and two complete extra sets of final filters for each air handling system. Install new filters at completion of air handling system work, and prior to testing, adjusting, and balancing work. Obtain receipt from Owner that new filters have been installed.

END OF SECTION 15886